

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 1. (Previously presented): An error correction coding method for use with an
2 error correction coding apparatus, comprising the steps of:
3 subdividing data which includes data of a plurality of sectors;
4 allocating the subdivided data in a plurality of arrangements of data;
5 coding each of said arrangements of data using a product code according to a code
6 V and a code H and thereby generating a plurality of product-code codewords; and
7 outputting code-H codewords of each of said product-code codewords in a
8 codeword-by-codeword manner in an alternating fashion for said plurality of product-code
9 codewords,
10 wherein data of each sector lies on a plurality of said code-H codewords, and
11 between the outputted data of each sector there does not exist data of another sector.

2 - 7. (Canceled)

1 8. (Previously presented): An error correction coding apparatus, comprising:
2 means for subdividing data which includes data of a plurality of sectors;
3 means for allocating said subdivided data in a plurality of arrangements of data;
4 means for coding each of said arrangements of data using a product code
5 according to a code V and a code H and thereby generating a plurality of product-code
6 codewords; and
7 means for outputting code-H codewords of each of said product-code codewords
8 in a codeword-by-codeword manner in an alternating fashion for said plurality of product-code
9 codewords,
10 wherein data of each sector lies on a plurality of said code-H codewords, and
11 between the outputted data of each sector there does not exist data of another sector.

9 - 17. (Canceled)

1 18. (Previously presented): An error correction decoding method for use with
2 an error correction decoding apparatus comprising the steps of:

3 inputting data of code-H codewords with or without error data, in an order such
4 that data of each sector lies on a plurality of said code-H codewords, and between the outputted
5 data of each sector there does not exist data of another sector;

6 allocating said inputted data of code-H codewords in an arrangement of a plurality
7 of product-code codewords according to a code V and a code H in a codeword-by-codeword
8 manner in an alternating fashion for said plurality of product-code codewords with or without
9 error data;

10 decoding said plurality of product-code codewords with said code V and said
11 code H thereby to correct error data; and

12 providing data of said plurality of sectors from among said plurality of
13 product-code codewords corrected.

19. (Canceled)

1 20. (Previously presented): An error correction decoding apparatus
2 comprising:

3 means for inputting data of code-H codewords with or without error data in an
4 order such that data of each sector lies on a plurality of said code-H codewords, and between the
5 outputted data of each sector there does not exist data of another sector;

6 means for allocating said inputted data of code-H codewords in an arrangement of
7 a plurality of product-code codewords according to a code V and a code H in a codeword-by-
8 codeword manner in an alternating fashion for said plurality of product-code codewords with or
9 without error data;

10 means for decoding said plurality of product-code codewords with said code V
11 and said code H thereby to correct error data; and

12 means for providing data of said plurality of sectors from among said plurality of
13 product-code codewords corrected.

21. (Canceled)

1 22. (Previously presented): An error correction coding method according to
2 claim 1, wherein the outputted data are stored in a storage.

23. (Canceled)

1 24. (Previously presented): An error correction coding apparatus according to
2 claim 8, wherein the outputted data are stored in a storage.

25. (Canceled)

1 26. (Previously presented): An error correction decoding method according to
2 claim 18, wherein the inputted data are read from a storage.

27. (Canceled)

1 28. (Previously presented): An error correction decoding apparatus according
2 to claim 20, wherein the inputted data are read from a storage.

29. (Canceled)